

April, 2004

## **CURRICULUM VITAE**

**James D. Yager Jr., Ph.D.**

### **Part I**

#### **Personal Data**

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#### **Education and Training**

##### **Predoctoral:**

**B.S.** 1965, Marquette University, Biological Sciences

**Ph.D.** 1971, University of Connecticut, Storrs Campus  
Advisor: Dr. Norman W. Klein  
Field of Study: Cell and developmental biology  
Thesis: "The role of various yolk protein fractions in the nutrition of the cultured early chick embryo".

##### **Postdoctoral:**

1971-1974, McArdle Laboratory for Cancer Research, University of Wisconsin, Madison, (NCI Postdoctoral Fellow)  
Advisor: Dr. Van R. Potter  
Field of Study: Chemical carcinogenesis, DNA repair mechanisms

#### **Professional Experience - Academic**

**1989 -present:** Professor of Toxicology, Department of Environmental Health Sciences, The Johns Hopkins Bloomberg School of Public Health; with a joint appointment in the Department of Oncology, The Johns Hopkins University School of Medicine  
**1986 - 1989:** Professor of Anatomy Dartmouth Medical School (DMS); Adjunct Professor, Biochemistry Program Dartmouth College (DC)  
**1983 - 1986:** Associate Professor of Anatomy and Pathology, DMS; Adjunct Associate Professor, Biochemistry Program, DC

**1981 - 1983:** Associate Professor of Environmental Medicine, New York Univ. Medical School

**1977 - 1981:** Assistant Professor of Pathology, DMS; Adjunct Assistant Professor, Biochemistry Program, DC

**1974 - 1977:** Assistant Professor of Biology, Dartmouth College

### **Professional Experience - Administrative**

**2000-present:** Senior Associate Dean for Academic Affairs, The Johns Hopkins Bloomberg School of Public Health

**1990-present:** Program Director and P.I., Training Program in Environmental Health Sciences, T32 ES 07141

**1996-2002:** Program and Director and P.I., Short-term Research Training for Minority Students, T35 ES7308.

**1999-2000:** Faculty Senate President, The Johns Hopkins Bloomberg School of Public Health

**1989-2000:** Director, Division of Toxicological Sciences, Department of Environmental Health Sciences, The Johns Hopkins Bloomberg School of Public Health

**1990-1999:** Director of the "Molecular Toxicology Program" of the NIEHS-supported Johns Hopkins "Center In Urban Environmental Health"; P.I., Dr. John Groopman.

**1987 - 1989:** Interim Chair, Department of Pharmacology and Toxicology, Dartmouth Medical School

**1983 - 1989:** Associate Director for Basic Science, Norris Cotton Cancer Center, Dartmouth-Hitchcock Medical Center

### **Academic Service**

#### **Dartmouth Medical School**

Biosafety Committee, DMS Biosafety Officer	1979-1981
BRSR Research Committee	1981, 1984-1986
Chairman, Search Committee for Neuropathologist	1980-1981
Planning Committee, Molecular Genetics Center, Dartmouth College/Dartmouth Medical School	1983-1984
Search Committee, NCCC Biostatistician	1984
Chairman, DMS Space Planning Committee	1985-1986
Planning Committee, Center for Molecular and Cellular Medicine, Dartmouth Medical School	1986-1987
Search Committee, NCCC Program Administrator	1987
Search Committee, Molecular Genetics position within the Center for Mol. and Cell. Medicine	1987-1988
Planning Committee, Construction of New Medical Center	1987-1988
Search Committee, NCCC Autologous Bone Marrow Transplant Program	1988
DMS Curriculum Committee	1988-1989
DMS Graduate Program Coordinating Committee	1988-1989

**Johns Hopkins Bloomberg School of Public Health****Division/Department**

Director, Division of Toxicological Sciences	1989-2000
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**School**

Animal Care and Use Committee (Chairman, beginning July 1, 1990)	1990-1993
Ad Hoc Committee on Tenure	1991-1992
Search Committee for an Associate Dean for Professional Programs	1991-1992
Long Range Planning Committee (co-coordinator)	1992
Strategic Plan 1993 Implementation Committee (co-coordinator)	1992-1993
Committee on Professional Conduct	1995-present
Chair, Department of Population Dynamics Review Committee	1997-
Faculty Senate (elected representative from EHS)	1996-1998
School of Hygiene and Public Health Finance Committee (Faculty Senate Representative)	1997-present
Johns Hopkins University Faculty Budget Advisory Committee	1997-2000
School of Hygiene and Public Health Faculty Senate EHS Representative	1996-1998
President-elect	1998-1999
President	1999-2000
Past-president	2000-2001
Ad hoc Committee on Titles (Krag Committee)	1998/1999
Bloomberg School of Public Health Committee of the Whole/ Advisory Board – Faculty Senate Representative	1998-2000
Strategic Plan 2000 – Co-coordinator	1999-2000
Member, Johns Hopkins Zanvyl Krieger School of Arts & Sciences Public Health Major Advisory Council	2000-present
Member, Johns Hopkins School of Nursing DNSc Review Committee	2002
Various departmental review, chair and faculty search, research, Finance, management, and academic committees as part of responsibilities as senior associate dean	2000-present

**Professional Activities and Community Service****Society Membership and Leadership**

AAAS	1974-present
Sigma Xi	1974-present
American Association of Cancer Research (AACR)	1975-present
AACR Program Committee	1989-1990

AACR Maryland State Legislative Committee	1992-2000
AACR Special Memberships Committee	1994-1995
American Society for Investigative Pathology (ASIP, FASEB)	
ASIP Program Committee, Neoplasia Group	1993-1995
Society of Toxicology (SOT)	1990-present
SOT Toxicology Initiatives Task Force	1993-1996
Chair, SOT Toxicology Initiatives Task Force	1994-1995
Nominating Committee	1996
Carcinogenesis Specialty Section, President (elected)	1999-2000
Society for In Vitro Biology	1995-1999
The Oxygen Society	1997-2004
American Chemical Society	2003-present

### **Advisory Boards and Chartered Review Panels**

Member, Pathology B Study Section, NIH	1982-1986
Advisory Board: Biotechnology and Biochemical Engineering	
Program, Thayer School of Engineering, Dartmouth College	1988-1989
Member, Metabolic Pathology Study Section, NIH	1990-1995
Chair, MEP Study Section	1993-1995
Member, Advisory Board for the Center for Alternatives to Animal	
Testing, Johns Hopkins University	1992-present
Member and Chair, NIH Fellowship Review Committee (ZRG-2)	1996-2000
Member, NIEHS Transition to Independent Positions Review	
Panels	2000-present
Member, Endocrine Disruptor Methods Validation Subcommittee	
(EDMVS) Of the EPA's National Advisory Council for	
Environmental Policy and Technology (NACEPT)	2001-2003
Member, National Toxicology Program Interagency Center for the	
Evaluation of Alternative Toxicological Methods (NICETAM)	
Scientific Review Panel to evaluate the validation Status of	
<i>in vitro</i> estrogen and androgen receptor binding and	
transcriptional assays	May, 2002
Member, NAS/NRC Committee on Toxicity Testing & Assessment	
of Environmental Agents	March, 2004-
	November, 2006

### **Consultations/Ad Hoc Review Panels**

Consultant for the Carcinogen Assessment Group of EPA	1979-1981
Member, Special Review Committee, Division of Cancer	
Research Resources and Centers, NIH	1980
Member, Various Site Visit Committees for NIH Cancer	
Center Support Grant & Program Project Grant Applications	1985
Member, Center for Indoor Air Research Grant Review Committee	1990-1995
Member, NIEHS Training Grant Review Committee	1990
Member, NIEHS Training Grant Site Review Committee	1991

Member, NIH Study Review Committee for RFA 91-CA-30, Understanding the Mech. of Hormonal Carcinogenesis	1992
Epidemiology 1 Review Group, US Army Breast Cancer Program	1998-1999
Member, Review Group for the Toxicology Training Program At UNC/Chapel Hill	May, 2000
Chair, Review Committee for the University of Minnesota School Of Public Health's Division of Environmental & Occupational Health	December, 2002
Member, advisory panel for program project grant "Embryonic Origin of Male Diseases", Vassilios Papadopoulos, P.I., Georgetown University	2002-present
Member, Executive Board for Lombardi Cancer Center's "DoD Breast Cancer Center of Excellence", Georgetown University, Peter Shields, P.I.	2003-present
Member, External Advisory Board, Prostate cancer Prevention Trial P01 project, "Biology of the Prostate Cancer Prevention Trial SWOG	2003-present
Member, NCI Program Project Site Visit Review Committee at The McArdle Laboratory for Cancer Research, Madison, WI	January, 2004

### **Community Service**

Member, Governor's Council on Toxic Substances, State of Maryland, Dept. of the Environment	1991-1992
Member European Commission working group on "Risks to Human Health from the use of Hormones as Growth Promoters In Farm Animals".	1999-2002
Member, Maryland Governor's "Task Force on the Environmental Effects of Methyl Tertiary-Butyl Ether (MTBE)	2000-2001

### **Editorial Activities**

#### **Peer Review for Journals**

*Biochemical Pharmacology*  
*Cancer Research*  
*Carcinogenesis*  
*Chemical-Biological Interactions*  
*Hepatology*  
*J. Cellular Physiology*  
*Molecular Carcinogenesis*  
*Science*  
*Toxicology and Applied Pharmacology*  
*J. Natl. Cancer Institute*

*Eur. J. Cancer*  
*Cancer letters*  
*PNAS*  
*Cancer Detection & Prevention*

### **Editorial Board Membership**

J. Environ. Pathol., Toxicol., and Oncology	1978-present
In Vitro - Cell & Developmental Biology (Reviewing Editor)	1997-2000
Toxicological Sciences	2000-present
Chemical Research in Toxicology	2003-present

### **Honors & Awards**

Invitation: Review article on Molecular Mechanisms of Hormonal Carcinogenesis for the <i>Annual Review of Pharmacology and Toxicology</i>	1996
Invitation: The 1998 International Agency for Research on Cancer Working Group to reevaluate human carcinogenicity risk associated with exposure to hormones	1998
Johns Hopkins Bloomberg School of Public Health – Election to Position of “President” of the Faculty Senate	1998
Keynote Speaker: 1999 Gordon Conference on Hormonal Carcinogenesis	1999
Delta Omega Honor Society, Alpha Chapter – Elected to membership	2002
Invitation: Review article on Breast Cancer for the <i>New England Journal of Medicine</i>	2004

### **Continuing Education**

Workshop – “Teaching Well, Saving Time” Johns Hopkins University Training & Education Programs	Spring, 2000
“Leadership Skills Assessment for Professional Development” & “Leadership Foundations” Workshops. Johns Hopkins University Center for training & Education	Spring, 2000
“Dirty Bombs: Radiation Risk & Response Conference”	Spring, 2003
Workshop: “Lecturing and Active Learning: Strategies for Excellence”	January, 2004

### **Publications**

#### **Articles Published in Peer Reviewed Journals**

Hassell, J., **Yager, J.D.** and Klein, N. Incorporation of  $^{14}\text{C}$  amino acids into egg proteins by the laying hen. *Poultry Sci.*, 49: 1121, 1970.

- Klein, N.W., **Yager, J.D., Jr.**, and Hagedorn, K. The direct effect of protein starvation on protein breakdown and synthesis in regions of the cultured early chick embryo. *Develop. Biol.*, 24: 178-179, 1971.
- Hopkins, H.A., Bonney, R.J., Walker, P.R., **Yager, J.D., Jr.**, and Potter, V.R. Food and light as separate entrainment signals for rat liver enzymes. *Advances in Enzyme Regulation*, 11: 169-191, 1973.
- Yager, J.D., Jr.** and Klein, N.W. The growth and development of early chick embryos cultured on several purified yolk proteins. *Develop. Biol.*, 38: 105-115, 1974.
- Yager, J.D., Jr.**, Lichtenstein, M.J., Bonney, R.J., Dorn, C.J., Hopkins, H.A., Walker, P.R., and Potter, V.R. Growth, organ weights, and liver enzymes in exercised rats on controlled feeding schedules. *J. Nutrition*, 104: 273-286, 1974.
- Trosko, J.E. and **Yager, J.D., Jr.** A sensitive method to measure physical and chemical carcinogen-induced unscheduled DNA synthesis in rapidly dividing eukaryotic cells. *Exptl. Cell Res.*, 88: 47-55, 1974.
- Bushnell, D.E., **Yager, J.D., Jr.**, Becker, J.E., and Potter, V.R. Inhibition of messenger RNA accumulation but not translation in ultraviolet irradiated hepatoma cells. *Biochem. Biophys. Res. Comm.*, 57: 949-956, 1974.
- Yager, J.D., Jr.** and Potter, V.R. A comparison of the effects of 3-methyl-4-dimethylaminoazobenzene, 2-methyl-4-dimethylaminoazobenzene and 2-acetylaminofluorene on rat liver DNA stability and new synthesis. *Cancer Res.*, 35: 1225-1234, 1975.
- Trosko, J.E., **Yager, J.D., Jr.**, Bowden, G.T., and Butcher, F. The effects of several croton oil constituents on two types of DNA repair and cyclic nucleotide levels in mammalian cells in vitro. *Chem.-Biol. Interact.*, 11: 191-205, 1975.
- Goodman, J.I., Trosko, J.E., and **Yager, J.D., Jr.** Studies on the mechanism of inhibition of 2-acetylaminofluorene toxicity by butylated hydroxytoluene. *Chem.-Biol. Interact.*, 12: 171-182, 1976.
- Longnecker, D.S., French, J., Hyde, E., Lilja, H.S., and **Yager, J.D.** Effect of age on nodule induction by azaserine and DNA synthesis in rat pancreas. *J. Natl. Cancer Inst.*, 58: 1769-1775, 1977.
- Lilja, J.S., Hyde, E., Longnecker, D.S., and **Yager, J.D., Jr.** DNA damage and repair in rat tissues following administration of azaserine. *Cancer Res.*, 37: 3925-3931, 1977.
- Yager, J.D., Jr.** and Miller, J.A., Jr. DNA repair in primary cultures of rat hepatocytes. *Cancer Res.*, 38: 4385-4394, 1978.
- Stanchfield, J.E., and **Yager, J.D., Jr.** An estrogen responsive primary amphibian liver cell culture system. *Exptl. Cell Res.*, 116: 239-252, 1978.
- Lilja, J.S., Curphey, T.J., **Yager, J.D., Jr.**, and Longnecker, D.S. Persistence of DNA damage in rat pancreas following administration of three carcinogens and/or mutagens. *Chem.-Biol. Interact.*, 22: 287-295, 1978.
- Stanchfield, J.E., and **Yager, J.D., Jr.** Insulin maintains high levels of protein synthesis and secretion in amphibian hepatocyte cultures. *J. Cell Physiol.*, 100: 279-289, 1979.
- Stanchfield, J.E., and **Yager, J.D., Jr.** Primary induction of vitellogen synthesis in monolayer cultures of amphibian hepatocytes. *J. Cell Biol.*, 84: 468-475, 1980.
- Yager, J.D., Jr.** and Yager, R. Oral contraceptive steroids as promoters of hepatocarcinogenesis in female Sprague-Dawley rats. *Cancer Res.*, 40: 3680-3685, 1980.
- Longnecker, D.S., Roebuck, B.D., **Yager, J.D., Jr.**, Lilja, H.S., and Siegmund, B.T. Pancreatic carcinoma in azaserine-treated rats: Induction, classification, and dietary modulation of incidence. *Cancer*, 47: 1562-1572, 1981.

- Roebuck, B.D., **Yager, J.D., Jr.**, and Longnecker, D.S. Dietary modulation of azaserine-induced pancreatic carcinogenesis in the rat. *Cancer Res.*, 41: 3961-3966, 1981.
- Roebuck, B.D., **Yager, J.D., Jr.**, Longnecker, D.S., and Wilpone, S.A. Promotion by unsaturated fat of azaserine-induced pancreatic carcinogenesis in the rat. *Cancer Res.*, 41: 3961-3966, 1981.
- Yager, J.D.**, Roebuck, B.D., Zurlo, J., Longnecker, D.S., Weselcouch, E.O., and Wilpone, S.A. A single-dose protocol for azaserine initiation of pancreatic carcinogenesis in the rat. *Int. J. Cancer*, 28: 601-606, 1981.
- Yager, J.D., Jr.**, and Fifield, D.S., Jr. The lack of hepatogenotoxicity of oral contraceptive steroids. *Carcinogenesis*, 3: 625-628, 1982.
- Yager, J.D., Jr.** Oral contraceptive steroids as promoters and/or complete carcinogens for liver in female Sprague-Dawley rats. *Env. Health Perspec.*, 50: 109-112, 1983.
- Zurlo, J. and **Yager, J.D.** Uv-enhanced reactivation of uv-irradiated herpes virus by primary cultures of rat hepatocytes. *Carcinogenesis*, 5: 495-500, 1984.
- Yager, J.D.**, Campbell, H.A., Longnecker, D.S. and Roebuck, B.D. and Benoit, M.C. Enhancement of hepatocarcinogenesis in female rats by ethinyl estradiol and mestranol but not estradiol. *Cancer Res.*, 44: 3862-3869, 1984.
- Yager, J.D.**, Zurlo, J., and Penn, A.L. Heat shock-induced enhanced reactivation of uv-irradiated herpes virus. *Mutation Res.*, 146: 121-128, 1985.
- Zurlo, J., Eustice, D.C., Mignano, J.E., Poirier, M.C. and **Yager, J.D.** Effects of carcinogen treatment on rat liver DNA synthesis in vivo and on nascent DNA synthesis and elongation in cultured hepatocytes. *Mutation Res.*, 161: 143-154, 1986.
- Yager, J.D.**, Roebuck, B.D., Paluszcyk, T.L., and Memoli, V.A. Effects of ethinyl estradiol and tamoxifen on liver DNA turnover, new synthesis and appearance of gamma glutamyl transpeptidase-positive foci in female rats. *Carcinogenesis*, 7: 2007-2014, 1986.
- Lui, Y-L., Roebuck, B.D., **Yager, J.D.**, Groopman, J.D., and Kensler, T.W. Protection by 5-(2-pyrazinyl)-4-methyl-1,2-dithiol-3-thione (oltipraz) against the hepatotoxicity of aflatoxin B1 in the rat. *Toxicol. Applied Pharm.*, 93: 442-451, 1988.
- Shi, Y.E. and **Yager, J.D.** Enhancement in rats by the liver tumor promoter ethinyl estradiol of a serum factor(s) which is stimulatory for hepatocyte DNA synthesis. *Biochem. Biophys. Res. Commun.*, 160: 154-161, 1989.
- Shi, Y.E. and **Yager, J.D.** Effects of the liver tumor promoter ethinyl estradiol on epidermal growth factor-induced DNA synthesis and epidermal growth factor receptor levels in cultured rat hepatocytes. *Cancer Res.*, 49: 3574-3580, 1989.
- Silverman, J.A., Zurlo, J., Watson, M.A. and **Yager, J.D.** Expression of c-raf-1 and A-raf-1 during regeneration in rat liver following surgical partial hepatectomy. *Molec. Carcinogenesis*, 2: 63-67, 1989.
- Zmuidzinas, A., Gould, G. W. and **Yager, J. D.** Expression of c-raf-1 and A-raf-1 during differentiation of 3T3-L1 preadipocyte fibroblasts into adipocytes. *Biochem. Biophys. Res. Commun.*, 162: 1180-1187, 1989.
- Standeven, A.M., Shi, Y.E., Sinclair, J.F., Sinclair, P.L. and **Yager, J.D.** Metabolism of the liver tumor promoter ethinyl estradiol by primary cultures of rat hepatocytes. *Toxicol. Appl. Pharm.*, 102: 486-496, 1990.
- Shi, Y. E. and **Yager, J. D.** Regulation of the hepatocyte epidermal growth factor receptor levels by the liver tumor promoter ethinyl estradiol. *Carcinogenesis*, 11: 1103-1109, 1990.



- Silverman, J.A., Kuhlmann, E.T., Zurlo, J., **Yager, J.D.**, and Longnecker, D.S. Expression of *c-myc*, *c-raf-1* and *c-K-ras* in azaserine-induced pancreatic carcinomas and growing pancreas in rats. *Molec. Carcinogenesis*, 3: 379-386, 1990.
- Yager, J.D.** and Shi, Y.E. Synthetic estrogens and tamoxifen as promoters of hepatocarcinogenesis. *Preventive Medicine*, 20: 27-37, 1991.
- Yager, J.D.** Zurlo, J. and Ni, N. Sex hormones and tumor promotion in liver. *Proc. Soc. Exptl. Biol. Med.*, 198: 667-674, 1991.
- Ni, Nan and **Yager, J.D.** Co-mitogenic effects of estrogens on DNA synthesis induced by various growth factors in cultured rat hepatocytes. *Hepatology*, 19: 183-192, 1994.
- Li, Y, Trush, M.T., and **Yager, J.D.** DNA damage caused by copper-dependent oxidation of the 2-hydroxy catechol of estradiol. *Carcinogenesis*, 15: 1421-1427, 1994.
- Yager, J.D.**, Zurlo, J, Seweall, C.H., Lucier, G.W., and He, H. Growth stimulation followed by growth inhibition in livers of rats treated with ethinyl estradiol. *Carcinogenesis*, 15: 2117-2123, 1994.
- Ni, N. and **Yager, J.D.** The co-mitogenic effects of various estrogens for TGF- $\alpha$ -induced DNA synthesis in cultured female rat hepatocytes. *Cancer Letters*, 84: 133-140, 1994.
- Arterburn, L.M., Zurlo, J., **Yager, J.D.**, Overton, R.M., and Heifetz, A.H. A morphological study of differentiated hepatocytes in vitro. *Hepatology*, 21: 175-187 1995.
- Gutsche, A.T., Lo, H., Zurlo, J., **Yager, J.D.**, and Leong, K.W. Engineering of a sugar-derivatized porous network for hepatocyte culture. *Biomaterials*, 17:387-93, 1996.
- Balls, M., Goldberg, A.M., Fentem, J.H., Broadhead, C.L., Burch, R.L., Festing, M.F.W., Frazier, J.M., Hendriksen, C.F.M., Jennings, M., van der Kamp, M.D.O., Morton, D.B., Rowan, A.N., Russell, C., Russell, W.M.S., Spielman, H, Stephens, M.L., Stokes, W.S., Straughan, D.W., **Yager, J.D.**, Zurlo, J. and van Zutphen, B.F.M. The three Rs: The way forward. The report and recommendations of ECVAM workshop 11. *ATLA*, 23: 838-866, 1995.
- Gokhale, M.S., Bunton, T.E., Zurlo, J. and **Yager, J.D.** Cytochrome P450 1A1/1A2 induction, albumin secretion and histological changes in cultured rat liver slices. *In Vitro Toxicol.*, 8: 355-366, 1995.
- Tritscher, A.M., Seacat, A.M., **Yager, J.D.**, Groopman, J.D., Miller, B.D., Bell, D., Sutter, T.R. and Lucier, G.W. Increased oxidative DNA damage in livers of TCDD treated intact but not ovariectomized rats. *Cancer Letters*, 98: 219-225, 1996.
- Chen, J., Schwartz, D.A., Young, T.A., Norris, J.S. and **Yager, J.D.** Identification of genes whose expression is altered during mitosuppression in livers of ethinyl estradiol-treated female rats. *Carcinogenesis*, 17: 2783-2786, 1996.
- Yager, J.D.** and Liehr, J.G. Molecular Mechanisms of Estrogen Carcinogenesis. *Annual Rev. Pharmacol. Toxicol.* 36: 203-232, 1996.
- Gokhale, M.S., Bunton, T.E., Zurlo, J, and **Yager, J.D.** Cytochrome P450 isozyme activities in cultured rat and mouse liver slices. *Xenobiotica*, 27: 341-355, 1997.
- Gokhale, M.S., Lin, J. R. and **Yager, J. D.** Improved cell viability in control and doxorubicin treated cultured rat hepatocytes, *Toxicology In Vitro*, 11: 753-759, 1997.
- Ha, H.C., Woster, P.M., **Yager, J.D.** and Casero, R.A., Jr. Potential mechanism of polyamine analogue-induced programmed cell death. *Proc. Natl. Acad. Sci. (USA)*, 94: 11557-11562, 1997.

- Seacat, A.M., Kuppusamy, P., Zweier, J.L. and **Yager, J.D.** ESR identification of free radicals formed from the oxidation of catechol estrogens by copper. *Arch. Biochem. Biophys.*, 347: 45-52, 1997.
- Lavigne, J.A., Helzlsouer, K.J., Huang, H.-Y., Strickland, P.T., Bell, D.A., Selmin, O., Watson, M.A., Hoffman, S., Comstock, G.W. and **Yager, J.D.** An association between the allele coding for a low activity variant of catechol-*O*-methyltransferase and the risk for breast cancer. *Cancer Res.*, 57: 5493-5497, 1997.
- Davidson, N. and **Yager, J.D.** Pesticides and Breast Cancer: Fact of Fad. *J. Natl. Cancer Institute*, 89: 1743-1744, 1997 (Invited Editorial).
- Ha., H.C., **Yager, J.D.**, Woster, P.A., Casero, R.A. Structural specificity of polyamine analogues in the protection of DNA from Strand breaks induced by reactive oxygen species. *Biochem. Biophys. Res. Commun.*, 244: 298-303, 1998.
- Chen, J., Gokhale, M. and **Yager, J.D.** Enhanced levels of several mitochondrial mRNA transcripts and mitochondrial superoxide production during ethinyl estradiol-induced hepatocarcinogenesis and after estrogen treatment of HepG2 cells. *Carcinogenesis*, 19: 2187-2193, 1998.
- Helzlsouer, K.J., Alberg, A.J., Huang, H.-Y., Hoffman, S.C., Strickland, P.T., Brock, J.W., Burse, V.W., Needham, L.L., Bell, D.A., Lavigne, J.A., **Yager, J.D.**, and Comstock, G.W. Serum concentrations of organochlorine compounds and the subsequent development of breast cancer. *Cancer Epidemiology, Biomarkers & Prevention*, 8: 525-532, 1999.
- Chen, J., Li, Yunbo, Lavigne, J.A., Trush, M.A., and **Yager, J.D.** Increased mitochondrial superoxide production in rat liver mitochondria, rat hepatocytes, and HepG2 cells following ethinyl estradiol treatment. *Toxicological Sciences*, 51, 224-235 1999.
- Chen, J., Gokhale, M., Schofield, B., Odwin, S., **Yager, J.D.** Inhibition of TGF- $\beta$ -induced apoptosis by ethinyl estradiol in cultured precision-cut rat liver slices and hepatocytes. *Carcinogenesis*, 21, 1205-1211, 2000.
- Yager, J.D.** Endogenous estrogens as carcinogens through metabolic activation. *J. Natl. Cancer Inst Monograph*, #27, 67-73, 2000.
- Jefcoate, C.R., Liehr, J.G., Santen, R.J., Sutter, T.R., **Yager, J.D.**, et al. Tissue-specific synthesis and oxidative metabolism of estrogens. *J. Natl. Cancer Inst. Monograph*, #27, 95-112, 2000.
- Goodman, J.E., Lavigne, J.A., Hengstler, J.G., Tanner, B., Helzlsouer, K.J., and **Yager, J.D.** Catechol-*O*-Methyltransferase polymorphism is not associated with ovarian cancer. *Cancer Epidemiology, Biomarkers & Prevention*, 9, 1373-1376, 2000.
- Goodman, J.E., Lavigne, J.A., Wu, K., Helzlsouer, K.J., Strickland, P.T., Selhub, J., and **Yager, J.D.** *COMT* Genotype, Micronutrients in the Folate Metabolic Pathway, and Breast Cancer Risk. *Carcinogenesis*, 22, 1661-1665, 2001.
- Lavigne, J.A., Goodman, J.E., Fonong, T., Odwin, S., He, P., Roberts, D.W., and **Yager, J.D.** The effects of catechol-*O*-methyltransferase inhibition on estrogen metabolite and oxidative DNA damage levels in MCF-7 cells. *Cancer Res.*, 61, 7488-7494, 2001.
- Li, Y., Seacat, A., Kuppusamy, P., Zweier, J.L., **Yager, J.D.**, and Trush, M.A. Copper redox-dependent activation of 2-tert-butyl(1,4)hydroquinone: Formation of reactive oxygen species and induction of oxidative DNA damage in isolated DNA and cultured rat hepatocytes. *Mutation Res.* 518, 123-133, 2002.
- Goodman, J.E., Jensen, L.T., He, P., and **Yager, James D.** Characterization of human soluble high and low activity catechol-*O*-methyltransferase catalyzed catechol estrogen methylation. *Pharmacogenetics*, 12, 517-528, 2002.

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- Chen, J., Delannoy, M., Odwin, S., He, P., Trush, M.A., and **Yager, J.D.** Enhanced mitochondrial gene transcripts, ATP, Bcl-2 protein levels, and altered glutathione distribution in ethinyl estradiol-treated cultured female rat hepatocytes. *Toxicological Sciences*, 75, 271-278, 2003.
- Chen, J., Delannoy, M., Cook, C., and **Yager, J.D.** Mitochondrial localization of ER $\alpha$  and ER $\beta$  in human MCF-7 cells. *Amer. J. Physiol: Endocrinology and Metabolism*, In Press, 2004.
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- Li, Y., Yao, J., Chang, M., Nikolic, D., Yu, L., **Yager, J.D.**, Mesecar, A.D., vanBreeman, R.B., and Bolton, J.L. Equine catechol estrogen 4-hydroxyequilenin is a more potent inhibitor of the variant form of catechol-*o*-methyltransferase. *Chem. Res. Toxicol.*, 17, 512-520, 2004.
- Sullivan, A.E., Goodman, J.E., Silber, P., and **Yager, J.D.** Correlation between Catechol-*O*-methyltransferase genotype and phenotype in human hepatocytes. In review, 2004.
- Chen, J.-Q. and **Yager, J.D.** Estrogen effects on mitochondrial gene expression: mechanisms and potential contributions to breast cancer. *Annals N.Y. Acad. Sci.*, In review, 2004.

### **Book Chapters**

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- Yager, J.D., Jr.**, Hopkins, H.A., Campbell, H.A., and Potter, V.R. An autoradiographic analysis of DNA synthesis following partial hepatectomy in rats. In: *Third Workshop on Experimental Liver Injury: Liver Regeneration after Experimental Injury*. Lesch, R. and Reutter, W. (eds.), Stratton Intercontinental Medical Book Corp., New York, pp. 56-60, 1975.
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- Roebuck, B.D., Longnecker, D.S. and **Yager, J.D., Jr.** Initiation and promotion in pancreatic carcinogenesis. In: *Mechanisms of Tumor Promotion*, Vol. 1, T.J. Slaga, ed., CRC Press, Inc., FL, 1983, pp. 151-176.
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- Yager, J.D.** and Shi, Y.E. Mechanisms of Stimulation of hepatocyte DNA synthesis by ethinyl estradiol. In: *Chemically Induced Cell Proliferation: Implications for Risk Assessment*. B. Butterworth and T. Slaga, eds. Wiley-Liss, Inc. N.Y., 1991, pp. 53-65.
- Yager, J.D.** Stimulation of Cell Proliferation by Tumor Promoters. In: *In Vitro Toxicology : Mechanisms and New Technology*, A. Goldberg, ed., Mary Ann Liebert, Inc, N.Y., 1991, pp. 37-43.
- Yager, J.D.** Growth Stimulation and Tumor Promotion in Rat Liver by Ethinyl Estradiol and Other Estrogens. In: *Hormonal Carcinogenesis*, J.J. Li, S. Li and S. Nandi, eds., Springer-Verlag, NY, 1992, pp. 130-137.
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- Gokhale, M., Zurlo, J., Bunton, T., Yang, S., Diehl, A. and **Yager, J.** Cytochrome P450 Induction and Expression of Early Response Genes followed by DNA Synthesis in Cultured Liver Slices. In: *Animal Alternatives, Welfare and Ethics*. L.F.M. van Zutphen and M. Balls. eds., Elsevier, NY, 1997, pp. 843-849.

### **Published Abstracts**

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- Yager, J.D., Jr.**, Potter, V.R. Separation of regeneration and neoplastic hyperplasia in liver of rats fed 3'methyl-4-dimethylamioazobenzene, *Proc. Amer. Assoc. Cancer Res.*, 13:9, 1972.
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- Yager, J.D., Jr.** and Miller, J.A., Jr. DNA repair in primary cultures of rat hepatocytes. *Proc. Amer. Assoc. Cancer Res.*, 18:159, 1977.
- Stanchfield, J.E. and **Yager, J.D., Jr.** Vitellogenin induction in primary monolayer cultures of amphibian hepatocytes. *J. Cell Biology*, 75:183, 1977.
- Yager, J.D., Jr. DNA damage and repair in primary cultures of rat hepatocytes. *J. Maine Medical Assoc.*, 68:255, 1977.
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- Stanchfield, J.E., and **Yager, J.D., Jr.** The effects of insulin on protein synthesis and secretion in primary cultures of amphibian hepatocytes. *Fed. Proc.*, 37:359, 1978.
- Roebuck, B.D., Wilpone, S.A., Fifield, D.S., and **Yager, J.D., Jr.** Hemorrhagic deaths with AIN-76 diet. *J. Nutrition*, 109:924, 1979. (Letter to the Editor).
- Yager, J.D., Jr.** and Yager, R. Promotion of hepatocarcinogenesis by oral contraceptive steroids. *Proc. Amer. Assoc. Cancer Res.*, 21:76, 1980.
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- Zurlo, J., **Yager, J.D., Jr.**, Longnecker, D.S., and Curphey, T.J. Studies on DNA damage and repair synthesis induced in rat and hamster pancreas and liver by N-nitrosobis(2-oxopropyl)-amine. *Proc. Amer. Assoc. Cancer Res.*, 22:91, 1981.
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- Yager, J.D.**, Zurlo, J., Mignano, J.E. and Penn, A.L. Induction of SOS-type processes by uv treatment of cultured hepatocytes. *J. Cellular Biochem. Supp.*, 78:216, 1983.
- Zurlo, J. and **Yager, J.D.** Oncogene expression during pancreatic regeneration and in chemically induced pancreatic and liver carcinomas in the rat. *Fed. Proc.*, 44:1493, 1985.
- Mignano, J.E. and **Yager, J.D.** Detection and identification of transforming activity in human hepatoma cell line DNA following transfection into NIH 3T3 cells. *Fed. Proc.*, 44:1209, 1985.
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- Shi, Y. E. and **Yager, J. D.** Enhanced EGF-induced DNA synthesis and EGF receptor levels in rat hepatocytes treated with ethinyl estradiol (EE). *Proc. Amer. Assoc. Cancer Res.*, 30: 210, 1989.

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- Zurlo, J. and **Yager, J.D.** The effects of synthetic and natural product estrogens on epidermal growth factor-induced DNA synthesis in rat hepatocytes in primary culture. *Proc. Amer. Assoc. Cancer Res.* 32: 154, 1991.
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- Gokhale, M.S., O'Gorman, M.A., Groopman, J.G., Zurlo, J., and **Yager, J.D.** Maintenance and induction of cytochrome P450 mediated activities in cultured rat liver slices. *The Toxicologist*, 14: 31, 1994.
- Seacat, A.M. and **Yager, J.D.** Investigation of the effect of cytochrome P450 induction on oxidative DNA damage caused by ethinyl estradiol. *The Toxicologist*, 14: 134, 1994.
- Gokhale, M.S., Zurlo, J. and **Yager, J.D.** Further characterization of cultured rat liver slices for toxicological studies. *The Toxicologist*, 15: 285, 1995.
- Seacat, A.M. and **Yager, J.D.** Oxidative DNA damage caused by ethinyl estradiol in cultured female rat hepatocytes. *The Toxicologist*, 15: 26, 1995.
- Lavigne, J, Seacat, A, Young, T. and **Yager, J.** Metabolism of estradiol in three different breast cell lines. *Fund. Appl. Toxicol.*, 30: 235, 1996.
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- Ha, H.C., **Yager, J.D.**, Casero, R.A. Jr. Polyamines and polyamine analogues protect DNA from strand breaks induced by reactive oxygen species. *The Toxicologist*, 16: 68, 1996.
- Seacat, A.M., Groopman, J.D. and **Yager, J.D.** DNA damage resulting from the oxidation of catechol estrogens by copper: comparison of 8-oxo-deoxyguanosine (\*-oxo-dG) to DNA strand break formation. *Fund. Appl. Toxicol.*, 30: 68, 1996.
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- Chen, J., Schwartz, D.A., Norris, J.S., Young, T. and **Yager, J.D.** Identification of genes whose expression is altered during mitosuppression in livers of ethinyl estradiol (EE)-treated female rats. *Proc. Amer. Assoc. Cancer Res.*, 37: 161, 1996.

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- Gokhale, M.S., **Yager, J.D.**, Yang, S. And Diehl, A.M. Induction of DNA synthesis and expression of early response genes in cultured rat liver slices. *Fund. Appl. Toxicol.*, 36: 123, 1997.
- Lavigne, J.A., Helzlsouer, K.A., Young, T.A. And **Yager, J.D.** Genetic polymorphism in the catechol-o-methyltransferase gene in breast cell lines and in breast cancer patients. *Fund. Appl. Toxicol.*, 36: 304, 1997.
- Ha, H.C., Woster, P.M., **Yager, J.D.** and Casero, R.A. Release of cytochrome c from mitochondria in polyamine analogue-induced programmed cell death. *Proc. Amer. Assoc. Cancer Res.*, 39: 67, 1998.
- Lavigne, J.A. and **Yager, J.D.** Effect of catechol-o-methyltransferase (COMT) inhibitors on human breast epithelial cell growth and on COMT activity. *Proc. Amer. Assoc. Cancer Res.*, 39: 385, 1998.
- Chen, J.-Q., Li, Y., Trush, M.A. and **Yager, J.D.** Ethinyl estradiol, estradiol and its catechol metabolites increase mitochondrial gene mRNA levels and generation of reactive oxygen species. *Proc. Amer. Assoc. Cancer Res.*, 39: 395, 1998.
- Jiang, C., Wolfe, P., Sedlacek, S., Conry, C., **Yager, J.D.** and Thompson, H.J. Polymorphisms in CYP 17 and COMT and their relationship to breast cancer risk factors. *Proc. Amer. Assoc. Cancer Res.*, 39: 626, 1998.
- Chen, J., Gokhale, M., Odwin, S., Li, Yunbo, Trush, M. and **Yager, J.D.** Use of cultured precision-cut liver slices and cultured rat hepatocytes to detect xenobiotics that inhibit apoptosis and thus could have tumor promoting activity. *ATLA*, 27: 69, 1999.
- Yager, J.D.**, Published abstracts not listed for 2000-2002.
- Sullivan, A.E., Goodman, J.E., and **Yager, J.D.** Catechol-O-methyltransferase (COMT) and catechol estrogens in breast cancer. Presented at the 226<sup>th</sup> National American Chemical Society Division of Toxicology Meeting, New York, NY, Sept. 7 - 11, 2003.
- Li, Y., Yoa, J., Chang, M., Yu, L., **Yager, J.D.**, Mesecar, A.D., van Breemen, R.B., and Bolton, J.L. Equine estrogen metabolite 4-hydroxyequilenin (4-OHEN) is a more potent inhibitor of the variant form of catechol O-methyltransferase (COMT). Presented at the 226<sup>th</sup> National American Chemical Society Division of Toxicology Meeting, New York, NY, Sept. 7 - 11, 2003.
- Sullivan, A., Goodman, J., Silber, P., **Yager, J.** Correlation between Catechol-O-Methyltransferase Genotype and Phenotype. *The Toxicologist*, 73, 2004.

**CURRICULUM VITAE**

**James D. Yager Jr., Ph.D.**

**Part II**

**Teaching**

**Awards**

Johns Hopkins School of Hygiene and Public Health “Advising, Mentoring and Teaching Recognition Award, June, 2000

**Advisees**

**Ph.D. Students-Dartmouth**

James E. Stanchfield, Ph.D., 1975-79

Thesis: "The Effect of Estradiol-17B and Insulin on Protein Synthesis in Primary Monolayer Culture of Amphibian Hepatocytes."

John E. Mignano, Ph.D., 1982-1986

Thesis: "Detection and Identification of Transforming Activity in DNA from the HepG2 Human Hepatoma Cell Line."

Yuenian Shi, 1985-1989

Thesis: "Growth Regulation of Rat Hepatocytes by the Liver Tumor Promoter Ethinyl Estradiol."

Antanina R. Zmuidzinas, 1986-1989

Thesis: none, transferred to another investigator upon move to JHU

**Ph.D. Students-Johns Hopkins**

Nan Ni, 1990-1993

Thesis: "Mechanisms of Estrogen-enhanced Hepatocyte Growth"

Andrew Seacat, 1993-1996

Thesis: "Mechanisms of Ethinyl Estradiol-Induced Oxidative DNA Damage"

Hyo Chol (Jason) Ha, 1995-1998

Thesis: "Polyamines: Functional Roles in Cell Survival and Cell Death"

Jackie Lavigne, 1994-1999

Thesis: "The Role of Catechol-*O*-Methyltransferase in Determining Breast Cancer Risk and Controlling Estrogen Metabolite Levels"

Julie Goodman, 1996-2002

Thesis: "Catechol-*O*-Methyltransferase Polymorphism: Effects on Catechol Estrogen Methylation and Breast Cancer Risk"

Anne Sullivan, 2000-

Thesis: Title Pending



Britt Luccy, 2001-  
Thesis: Title Pending

### **Postdoctoral Trainees-Dartmouth**

David C. Eustice, Ph.D., 1980-1981  
Joanne Zurlo, Ph.D., 1981-1983  
Jeffrey Silverman, Ph.D., 1984-1988

### **Postdoctoral Trainees-Johns Hopkins**

Molly O'Gorman, M.D., 1992-1993  
Mamata Gokhale, Ph.D., 1993-1995  
Yaqing Shi, M.S., WHO Visiting Research Fellow, May 1995-March , 1996  
Jinqiang Chen, Ph.D., 1995-1998  
Christina Borgeest, Ph.D., 2003-

### **Departmental Preliminary Oral Exam Participation:** (in addition to my own students)

William Lyons	1990	Environmental Health Sciences (EHS)
Steven Rembish	1990	EHS
Ajay Verma	1990	EHS
Stacey Farmer	1994	EHS
Laundette Knight	1995	EHS
Anthony Kuhlmann	1995	EHS
Jackie Lavigne	1995	EHS
Hyo Chol (Jason) Ha	1995	EHS
Ravinder Indurti	1996	EHS
Kyung Ah Kim	1996	EHS
Xui Fen Liu	1996	EHS
Chad Nelson	1997	EHS
Julie Goodman	1998	EHS
Jennifer Roberts	1998	EHS
Keary Cope	1999	EHS
Minerva Ramos-Gomez	1999	EHS
Rosemary Schuh	2000	EHS
Lori Sturtz	2000	EHS
Anne Sullivan	2001	EHS

### **Graduate Board Preliminary Oral Examinations:** (in addition to my own doctoral students)

Jonathan Gastel	1992	EHS
Ilya Elashvili	1992	EHS
Carrie Hayes	1993	EHS

Christine Nelson	1994	Epidemiology
Jeffery King	1994	EHS
Victor Nava	1995	MMI
Kuo-I Lin	1995	MMI
Jackie Lavigne	1995	EHS
Hyo Chol (Jason) Ha	1995	EHS
Phan T. Tran	1996	Biochemistry
Thomas Bonagura	1997	Pop. Dynamics/ Reproductive Biology
Gromoslaw A. Smolen	1998	Biochemistry
Stacey Melquist	1998	Biochemistry
Liyang Zhang	1999	Biochemistry/Reproductive Biology
Deborah Segal	2000	EHS
Anne Sullivan	2001	EHS
Meghan A. McSorley	2002	Epidemiology
Julie Hoover	2002	GTPCI
Michael K. Gibson	2003	GTPCI
Allison Doyle	2003	BMB

**Thesis Committees and Graduate Board Final Oral Examinations for:**

Joanna Lee	1990-1993	EHS
Nan Ni	1991-1993	EHS
Jonathan Gastel	1993-1995	EHS
Carrie Hayes	1993-1996	EHS
Ilya Elashvili	1993-1996	EHS
Craig Berchtold	1993-1997	EHS
Andrew Seacat	1993-1996	EHS
Stacy Farmer	1994-1996	EHS
Kuo-I Lin	1996-1998	MMI
Kristen Jordan	1997-1999	EHS
Kim, Kyung Ah	1997-1999	EHS
Jackie Lavigne	1994-1999	EHS
Tom Bonagura	1997-2001	BMB
Julie Goodman	1997- 2002	EHS
Kathy Gabrielson	1999-2001	EHS
Lying Zhang	1999-2002	BMB
Anne Sullivan	2000-2004	EHS
Britt Luccy-McAtee	2001-	EHS
Julie Hoover	2002-	GTPCI

**Graduate Board Final Oral Examinations Only:** (plus all those above on whose thesis committees I sat)

Lark Claassen	1990	Biochemistry, SHPH
Annie T. Gutsche	1995	Biochem. & Chemical Engineering, SOM
David Chand	1995	Biochem. & Chemical Engineering, SOM

Francis W. Grzywacz	1996	Population Dynamics
Joel Breving	1996	Population Dynamics
James M. Lai	1996	Reproductive Biol.
Kuo-I Lin	1998	MMI
Scott M. Benson	1998	Reproductive Biol.
R. Michael Anson	1998	Biology (JHU)
Yunbo Li	1999	EHS
Vadim S. Alatorsev	2002	BMB
Min Deng	2002	BMB

### **ScM Thesis Reader**

Jing-Yi Chern	2004	BMB
Brian Rosenberg	2004	BMB

### **MPH Advisees**

William Bizot	2001-	iMPH
Carol Christensen	2001-	iMPH
Jared Daniel	2001-	iMPH
Scott Filer	2001-	iMPH
Melinda Kurtz	2001-2004	iMPH
Arlena Lightbourn	2001-	iMPH
Daniel Schwartz	2001-	iMPH
Ayako Takei	2001-2003	iMPH
Winfred Manda	2002-	iMPH
Joanna Zablotsky	2002-2003	MPH

### **Graduate Certificate Program Advisees**

Karen Gil	2003
Anna Cabanes	2003

### **Graduate Training Program in Clinical Investigation MHS Students**

Elizabeth Bradley	2002-2003	MHS
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### **Classroom Instruction**

#### **Dartmouth College Biology Department**

Cell Biology (Bio. 22), 1975, 1976, 1977  
Molecular Biology (Bio. 23), 1975, 1976, 1977  
Advanced Cell Biology (Bio. 71), 1975  
Seminar Course: Prokaryotic and Eukaryotic Nucleic Acids: Their Interaction with Physical and Chemical Agents in the Environment

Physical & Chemical Environmental Agents" (Bio. 102), 1978  
Genetics (Bio. 20), 1985, 1987

### **Dartmouth College Biochemistry Program**

Biochemistry of Nucleic Acids (Biochem. 134), 1979, 1981

### **Dartmouth College Thayer School of Engineering**

Introduction to Biotechnology (ES42), 1987, 1988

### **Dartmouth Medical School**

Carcinogenesis Lectures in Pathology, 1977-1988  
Carcinogenesis Lectures in SMB Oncology, 1977-1988  
Seminar Course: "Environment and Human Health", Pharmacology, 134, 1980  
Seminar Course: "Principles of Environmental Pathology and  
Toxicology", Pharmacology 136, 1984  
Microscopic Anatomy 1980, 1984-1989  
Topics in Toxicology, "Mechanisms of Carcinogenesis", Pharmacology 123, 1989

### **Johns Hopkins University**

Lectures "Principles of Toxicology", 1989-present  
Lectures & course coordinator, web version of "Principles of Toxicology", 2000-present  
Lectures "Xenobiotic Metabolism", 1990-2003  
Lectures "Molecular Toxicology", 1992-2003  
Lecture "Molecular Endocrinology", 1993-present  
Lecture "Public Health Biology", 2003-present

## **Research Grants**

### **Research Support: Past and Present As Principal Investigator**

1975-1976	Milheim Foundation Starter Grant, 75-17, "Biochemical Properties of Primary Cultures of Liver Cells Isolated from Adult Rats During Early Stages of Hepatocarcinogenesis"
1975-1978	R01 CA18353, "DNA Repair During Initiation of Hepatocarcinogenesis"
1976-1978	R01 CA20948, "Effect of Dietary Stress on Pancreatic Carcinogenesis"
1979-1982	R01 CA26274, "Error-prone DNA Repair in Hepatocarcinogenesis"
1983-1989	R01 CA36713, "DNA Sequence Changes During Hepatocarcinogenesis"
1990-1991	W.R. Grace, "Development of a Rat Hepatocyte Model for In Vitro Toxicity Testing"
1978-present	R01 CA23916/CA36701, "Role of Gonadal Steroids in Hepatocarcinogenesis"

1991-present	T32 ES07141 "Training Program in Environmental Health Sciences"
1995-1998	R03 CA 70655 "Environmental Chemicals, Estrogens and Breast Cancer"
1998-present	R01 CA 77550 "Catechol-O-methyltransferase and Breast Cancer
2002-2004	R03 CA 94747 "Mitochondrial SOD & Breast Cancer Risk-Mechanism"
2003-2004	Army Grant DAMD 17-03-1-0579 "Development of a Mouse Model for Determination of the Role of the Catechol Metabolites of Estradiol in Mammary Tumorigenesis"

## **Presentations**

### **Invited Presentations (Selected, 1988-present)**

Best Foods - Food and Nutrition Advisory Council meeting on "*Molecular Interrelations of Nutrition and Cancer*", held in Newark NJ, March 16, 1988.

FASEB Summer Research Conference on "*Neoplastic Transformation of Liver Cells*", Copper Mountain CO, August 14-19, 1988.

Visiting Scholar for the Duke University Integrated Toxicology Program, March 29, 1989.

Symposium and Workshop on "*The Pathobiology of Neoplasia*", Richmond Virginia, April 27-28, 1989.

Fifth Annual International Symposium on Cellular Endocrinology on "*Molecular Cell Biology of Liver Growth and Function*", in honor of Drs. N. Bucher and V. R. Potter, Lake Placid, New York, August 13-16, 1989.

Workshop on "*Antiestrogen Prevention of Breast Cancer*", University of Wisconsin Clinical Cancer Center, Madison, Wisconsin, October 2-4, 1989.

Conference on "*Chemically Induced Cell Proliferation: Implications for Risk Assessment*", Austin, TX, November 29- December 2, 1989.

CAAT Workshop on "*Structure Activity Relationships in Predictive Toxicology*", Baltimore, MD, June 21-22, 1990.

FASEB Summer Research Conference on "*Hepatic Regeneration and Carcinogenesis: Molecular and Cellular Pathways*", Copper Mountain, CO, July 29-August 3, 1990.

Seventh International CAAT Symposium, "*In Vitro Toxicology: Mechanisms and New Technology*", Baltimore, MD, November 27-29, 1990.

First International Symposium on "*Hormonal Carcinogenesis*", Cancun, Mexico, March 19-23, 1991.

Symposium on "*The Role of Endogenous Factors in Tumor Promotion*", FASEB Meetings, Atlanta, GA, April 23, 1991.

FASEB Summer Research Conference on "*Hepatic Regeneration and Carcinogenesis: Molecular and Cellular Pathways*", Snowmass Village, CO, July 12-17, 1992.

University of Puerto Rico, Medical Sciences Campus, Fourteenth Annual Research Forum, San Juan, Puerto Rico, March 3-5, 1993.

Society of Toxicology, 1993 Annual Meeting, Symposium on "*Molecular Mechanisms in Hormonal Carcinogenesis*", New Orleans, LA, March 14-18, 1993.

1993 Gordon Conference on "*Hormonal Carcinogenesis*", Salve Regina College, Newport, Rhode Island, August 9-13, 1993.

- Second International Symposium on "Hormonal Carcinogenesis", Stockholm, Sweden, July 4-7, 1994.
- FASEB Summer Research Conference on "*Hepatic Regeneration and Carcinogenesis: Molecular and Cellular Pathways*", Copper Mountain, CO, August 7-12, 1994.
- ECVAM Workshop on "*The Three Rs - The Way Forward*", Sheringham, England, May 30- June 3, 1995.
- University of Vermont, Department of Biochemistry, Burlington, VT, Seminar, March, 1996.
- NIOSH, Morgantown, WV, Seminar, May, 1996
- Fifth European Meeting on "*Experimental Hepatocarcinogenesis*", Stockholm, Sweden, June 1-4, 1996.
- University of Nottingham, Life Science Division, Nottingham, U.K., Seminar, June 9, 1996.
- FASEB Summer Research Conference on "*Cellular and Molecular mechanisms for Liver Growth Regulation*", Snowmass Village, CO, August 3- August 8, 1996.
- Morgan State University, MARC/MBRS/Biology Department Seminar Series, Seminar, December 11, 1996.
- University of Connecticut Toxicology Scholars Colloquium, School of Pharmacy, Storrs, CT, Seminar, February 13-14, 1997.
- Meharry Medical College, Pharmacology/Toxicology Seminar Series, Department of Pharmacology, Seminar, February 27-28, 1997.
- American Thoracic Society, "Basic Science Techniques and Methods in Neurobiology" postgraduate course, lecture: "Use of Differential Display to Identify Genes Whose Expression is Altered by Treatment/Disease", San Francisco, CA, May 17, 1997.
- University of California, San Francisco, School of Pharmacy, Departments of Biopharmaceutical Sciences and Pharmaceutical Chemistry, Seminar, May 19, 1997.
- NIH/NIEHS conference on Estrogens in the Environment IV: Linking Fundamental Knowledge, Risk Assessment and Public Policy. "Estrogen Carcinogenesis: Linking Oxidative Damage to Growth Changes - Following a Path from Hepatocarcinogenesis in a Rat Model to Breast Carcinogenesis in Women. Arlington, VA, July 20-23, 1997.
- Gordon Research Conference on "Hormonal Carcinogenesis", "Catechol Estrogens as Mediators of Oxidative Damage and Stress: Inactivation by Catechol-O Methyltransferase and the COMT Low Activity Polymorphism as a Risk Factor for Breast Cancer.", Tilton, NH, July 27-August 1, 1997.
- Center for Alternatives to Animal Testing-Industrial In Vitro Toxicology Group Symposium on "Mechanisms of Toxicity", "Conference Summary and Closing Remarks". Baltimore, MD, September 8-10, 1997.
- National Cancer Institute Symposium on "Estrogens as Initiators and Promoters in Breast and Prostate Cancer" Chantilly, VA, March 16-17, 1998.
- University of Nebraska Medical Center, The Eppley Institute for Research in Cancer Research and Allied Diseases, Omaha, NE, April 22-24, 1998.
- Environmental Mutagen Society Annual Meeting, "Evidence for a Role of Estrogen Metabolites in Breast Cancer: The Low Activity Catechol-O-Methyltransferase (COMT) Allele as a Risk Factor". Anaheim, CA, March 21-26, 1998.
- Genetic Toxicology Association Meeting, "Molecular Mechanisms of Estrogen Carcinogenesis: Role of Oxidative Metabolites", University of Delaware, Newark, DE, May 21, 1998. Society for Epidemiologic Research 31<sup>st</sup> Annual Meeting, Participation in a Symposium on "Endocrine Disruptors" Chicago, IL, June 26, 1998.

- STP Minisymposium: Toxicologic Pathology of Endocrine Disrupters, “Estrogens and Carcinogenesis”, Vancouver, B.C., Canada, June 27, 1998.
- Gordon Research Conference on “Drug Metabolism”, “Association of low activity catechol-O-methyltransferase allele with risk for human breast cancer”. Plymouth, NH, July 5-July 9, 1998.
- Ireland Cancer Center, Case Western Reserve University. Cancer Center Retreat Symposium on “Hormone Responsive Malignancies”. “Estrogens as carcinogens through metabolic activation”, September 17-18, 1998.
- Gordon Research Conference on “Hormonal Carcinogenesis”, Conference addressee, “Estrogen carcinogenesis: Evidence for the role of catechol metabolites in rat liver and human breast cancer”, Tilton, NH, August 1-6, 1999.
- Research Conference on “Women’s Environments and Women’s Health”, “Gene-environment interactions: molecular epidemiology of susceptibility genes: biotransformation/metabolism” U. Maryland, Baltimore, October 22, 1999.
- Toxicology & Environmental Health Seminar Series, The role of estrogen catechol metabolites in estrogen carcinogenesis: are they signaling molecules and/or genotoxins?”, University of Florida, Gainesville, December 10, 1999.
- Hormones and Cancer 2000, “Oxidative metabolism of estrogens: role in estrogen-mediated carcinogenesis”. Port Douglas, Australia, November 3-7, 2000.
- Cancer Prevention and Control Colloquia Lecture Series, “Estrogen Carcinogenesis”, NIH/NCI, Bethesda, MD, Jan. 23, 2002.
- American Chemical Society Annual Meeting, Division of Chemical Toxicology, Chemical Toxicology of Hormone Replacement Therapy; Perspectives on the Women’s Health Initiative. “Catechol-O-methyltransferase and catechol estrogens in breast cancer”, New York City, September, 2003.
- Course on “Signal Transduction and Communication in Cancer Cells” sponsored by the Ettore Majorana Foundation and Centre for Scientific Culture, International School of Medical Sciences. “Steroid metabolites as potential signaling molecules: polymorphisms of genes affecting steroid metabolism as risk factors in carcinogenesis”, Erice, Sicily, (Italy). October, 2003

## **Additional Information**

### **Research Interests**

- Mechanisms of promotion of hepatocarcinogenesis by estrogenic xenobiotics
- Mechanisms of liver growth stimulation and inhibition by estrogenic xenobiotics
- Mechanisms of estrogen-induced oxidative DNA damage in liver and human breast epithelium
- Role of genetic susceptibility in human cancer through polymorphisms in biotransformation enzymes involved in estrogen oxidative metabolism

### **Key Words**

Estrogens, hepatocarcinogenesis, oxidative damage, hepatocytes, breast cancer, genetic susceptibility, estrogen oxidative metabolism, polymorphisms in estrogen biotransformation enzymes.